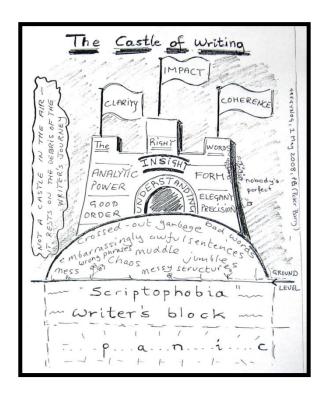


Language in research publications



Libor Štěpánek (libor.stepanek@cjv.muni.cz)

19th September 2016





agenda

- general context

- selected issues to consider

- tips





What

Who

Why





What is the writing about?





Who is writing? Who is the audience?







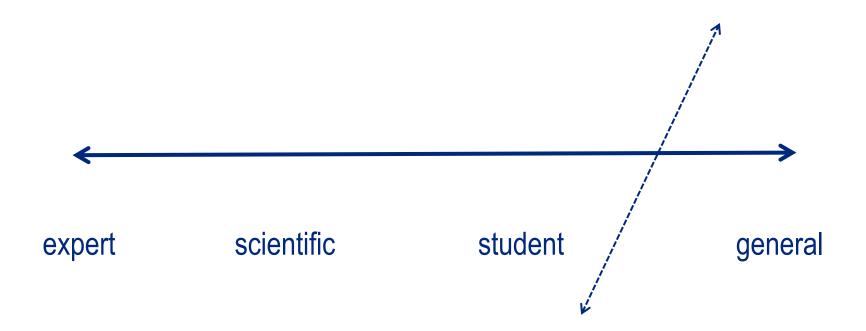
expert scientific

student

general







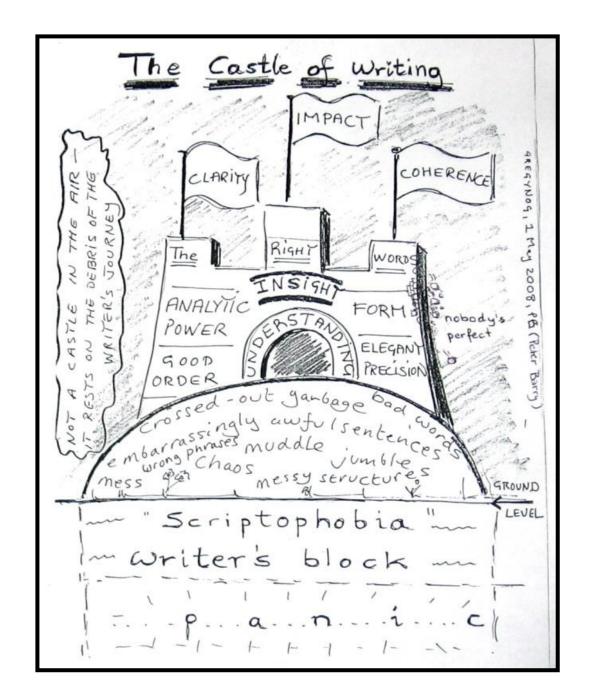




Why is the writing done?











structure

Micro

words, sentences, titles, grammar mechanics

Mezzo

paragraphs, abstracts, coherence, cohesion

Macro

text organisation, article structure, genres





structure

Micro

words, sentences, titles, grammar mechanics

Mezzo

paragraphs, abstracts, coherence, cohesion

Macro

text organisation, article structure, genres







(Adapted from: http://www.chemistry-blog.com/category/fun/page/2/)





- a) It rained cats and dogs yesterday, didn't it?
- b) What a downpour last night!
- c) The UK Meteorology Office monitored a heavy rainfall with the rate of precipitation reading 46 millimetres per hour on 24th March 2011 in North Cumbria.
- d) She was standing there in the storm waiting for deafening thunder to come, feeling the water cooling the air and thinking of how heavy the drops of water must be so that they could fall down from the dark clouds and make her feel refreshed and so light that she could fly, and make her full of energy, make her appreciate the eternal life it delivers, when finally she realised this precipitation was indeed a friend, her only true friend.







It rained cats and dogs yesterday, didn't it?













The UK Meteorology Office monitored a heavy rainfall with the rate of precipitation reading 46 millimetres per hour on 24th March 2011 in North Cumbria.





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complexity of academic language





cohesive with full forms of words neatly presented objective without redundancies correct explicit factual with flowing structure hedged unambiguous without clichés frequent third person pronouns responsible accurate backed up by evidence well structured neutral professionally acceptable revised understandable linear structure timeless specific referenced without colloquialisms re-drafted precise nominalised clear claiming authority formal tentative more frequent passive voice no negative forms impersonal with explicit links between presented ideas coherent with clear understanding of the subject matter concise

relevant within the discourse of your discipline



concise writing





concise writing

Concise writing presents information that is important to the reader.

There are no unnecessary words, sentences or paragraphs.

Redundant expressions and structures are eliminated or replaced wordy with more concise words or phrases that have the same meaning.

Adapted from: Cooper, P. (2011): Academic Writing and Czech Universities





Chromatography is an experimental technique used by chemists as a means to help them separate different compounds in experimental samples using the affinity of the compound for the mobile phase as well as the affinity of the compound for the stationary phase.

[42 words]





Chromatography is an experimental technique used by chemists as a means to help them separate different compounds in experimental samples using the affinity of the compound for the mobile phase as well as the affinity of the compound for the stationary phase.

[42 words]

Chromatography is an experimental technique used by chemists to separate compounds in experimental samples using the affinity of the compound for the mobile phase as well as the affinity of the compound for the stationary phase.

[36 words]





Chromatography is an experimental technique used by chemists as a Chromatography is an experimental technique used by chemists to separate compounds *in experimental samples* using the affinity of the compound for the mobile phase as well as the affinity of the compound for the stationary phase. [36 words]

Chromatography is used to separate compounds using the affinity of the compound for the mobile phase as well as the affinity of the compound for the stationary phase. [28 words]





[42 words]

Chromatography is an e

licad hu chamiete ae a

- r Chromatography is an experimental technique used by chemists to
- s separate compounds in experimental samples using the affinity of the
- Chromatography is used to separate compounds using the affinity of the compound for the mobile phase as well as the affinity of the compound for the stationary phase. [28 words]

Chromatography separates compounds based on the affinity of the compound for the mobile phase relative to the stationary phase.

[19 words]





passive vs active





passive vs active

Percentages of voice per section in the processes of three types of sciences in 21 research articles.

	Introduction		Method		Results		Discussion	
	Α	Р	Α	Р	Α	Р	Α	Р
Physical sciences	63,0	37,0	26,0	74,0	72,0	28,0	71,0	29,0
Biological sciences	74,0	26,0	38,0	61,05	68,0	32,0	79,0	21,0
Social sciences	84,0	16,0	46,0	54,0	77,0	23,0	85,0	15,0

A=active, P=passive Source: I.A.Martinez/English for Specific Purposes 20 (2001) 227-247)

NOTE: To read more on passive: Lilita Rodman: The passive in technical and scientific writing; http://www.jaconlinejournal.com/archives/vol2/rodman-passive.pdf





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We **should reject** this conclusion for two reasons.

VS

This conclusion **should be rejected** for two reasons.

. . .

It is unclear at this time as to what extent cremophore is responsible for these side effects, but similar hypersensitivity reactions in dogs have been attributed to histamine release by cremophore EL.





Experts **presented** and **discussed** a total of ten innovative papers during the two-day workshop sessions.

VS

A total of ten innovative papers were presented and discussed during the two-day workshop sessions.





To measure the number of gene copies the cellular DNA is broken into small pieces, the double strands are denatured (separated into single strands) by boiling, and a small amount of the radioactively labeled complementary DNA is added to the mixture under experimental conditions.





voice





voice

On self-mention in academic articles: Frequency of self-mention forms per discipline (Ø per 10,000 words).

Discipline	Total	Citation	I	Me	Му	We	Us	Our	Other
Physics	64,6	8,7	0,0	0,1	0,0	39,3	0,6	14,4	1,4
Marketing	61,3	6,9	1,6	0,0	0,7	31,0	1,1	18,9	0,6
Biology	56,2	22,6	0,0	0,1	0,1	24,0	1,1	7,2	0,7
Philosophy	52,7	3,1	35,6	2,5	7,7	1,4	0,2	0,6	0,0
Electronic eng.	44,4	10,7	0,0	0,0	0,0	23,3	0,4	8,6	0,5
Mechanical eng.	17,8	9,6	0,0	0,0	0,0	5,5	0,0	1,4	0,4
Overall	50,5	8,3	11,2	0,8	2,4	17,8	0,8	8,3	1,1

Adapted from: K. Hyland/English for Specific Purposes 20 (2001) 207-226





voice

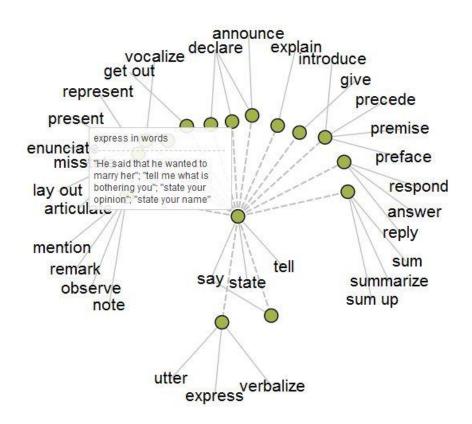
All manuscripts must...be written in objective third person point of view throughout (Use "the authors" or "the researchers" NOT "I" or "we")...

(Adapted from: http://www.igi-global.com/publish/contributor-resources/before-you-write/)





accuracy and precision







Lastly, I have to say, I'm still not convinced about the value of the word "suggest". The fact is, we do use it in microbiology as a verb with positive meaning - I would even say as a synonym for "prove", because of course, it's biology who dares to say "it proves" :D

I'm actually going to undertake a research among collegues, because I'm really curious if it's just a mistake of our group, or if it's some field-connected thing.





In their study, Lakhina, Crovella and Diot

important small scale

ambitious

significant

limited

original

remarkable

useful

traditional

exploratory

preliminary

impressive

rigorous

simple

complex

modest

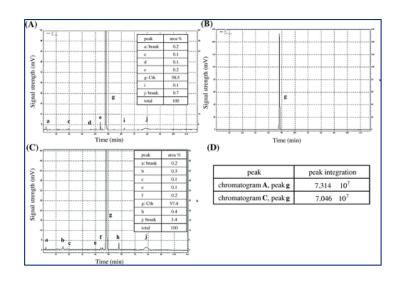
(Adapted from: Morley, J. et al: University Writing Course, Express Publishing, Newburry, 2009, p. 101)





shows presents illustrates summarizes demonstrates contains provides depicts lists reports

$18uO_2C$
 18uO_2C 1







It is

certain
almost certain
very probable / highly likely
probable / likely
possible
unlikely
very / highly unlikely

...that we will experience similar reactions when acids are used.





MEANING	LINKING EXPRESSIONS FOR BOTH INFORMAL AND FORMAL USE	LINKING EXRESSIONS FOR VERY FORMAL USE
ADDITION	If	for instance, such as, in particular
CAUSE-EFFECT / REASON	but, while	yet, however, nevertheless, still, nonetheless, although, in spite of, despite, whereas
CONDITION	and, not only but also, bothand	all in all, taking everything into consideration, on the whole, in conclusion, on balance, to sum up
CONTRAST / OPPOSITION	finally, lastly	owing to the fact that, due to the fact that, on the grounds that, since, as, for this reason, thus, therefore, consequently, as a result, as a consequence
EXAMPLE	when, before, after, till, until	on the condition that, provided, providing, as long as, in the event of, in case
SUMMARY – CONCLUSION	for example, like	since, as, in the meantime, simultaneously, subsequently
TIME	because, so	additionally, what is more, furthermore, moreover, besides,





Just the word
Phrasebank
UEFAP

Academic Word List - AWL
Wikipedia Google
Thesaurus / Synonyms
Online dictionaries
Google translator

Sust The Word for research - Windows Internet Explorer	
(3 ← jtw http://www.just-the-word.com/main.pl?word=research&mode=combinations	🔻 🛂 🗙 🚰 Google
😭 Oblibené položky 🗼 jtw Just The Word for research	🟠 🕶 🔝 🗸 🖃 📻 🕶 Stránka 🕶 Zabezpeč
unclustered research book (23) research bistory (15) *rosearch* PREP research into (32) research (Noun) V obj *research* cluster 1 carry out research (155) conduct research (132) direct research (132) direct research (20) encourage research (24) focus research (14) fund research (20) enput research (20) enput research (20) enput research (20) stemulate research (20) romotic research (17) stimulate research (17) stimulate research (12) support by research (11) cluster 2 commission research (29) concern research (29)	Research Research
engage in research (45) Invest in research (14) Involve in research (18) undertake research (122) cluster 3	
be research (20) continue research (24) cluster 4	





The noble gases, namely neon and radon, are under standard conditions odourless and colourless.

Herbivores that feed mainly or only on plants form an important link in the food chain.





The noble gases, **for example** neon and radon, are under standard conditions odourless and colourless.

Herbivores, which feed mainly or only on plants, form an important link in the food chain.





We found that

- -the pressure **increased** as the temperature **rose**, which **indicated** that temperature **played** a significant role in the process.
- -the pressure **increases** as the temperature **rises**, which **indicates** that temperature **plays** a significant role in the process.

The temperature dropped sharply when we reduced the pressure.

At the end there was a noticeable drop in temperature.

As can be seen in Fig. 1,

- the effect occurred in 23% of cases.
- the effect occurred in as many as 23% of cases.
- the effect occurred in only 23% of cases.





nominalisation





You can understand something better if it is repeated.





You can understand something better if it is repeated.



Comprehension is aided by repetition.





This can serve as a template, thanks to which proteins can be synthesised.



This can serve as a template for the synthesis of proteins.





The body temperature rose suddenly, as a consequence, the invading pathogen grew less quickly.



The sudden rise in body temperature may also have caused the inhibition of the growth of the invading pathogen.





The body temperature rose suddenly, as a consequence, the invading pathogen grew less quickly.



The **sudden rise** in body temperature **may also have** caused the **inhibition** of the **growth** of the invading pathogen.





Incomplete implementation of strategized programmatics was designated to maximize acquisition of awareness and utilization of communication skills pursuant to standardized review and assessment of linguistic development.

Adapted from: http://stevenpinker.com/files/pinker/files/why_academics_stink_at_writing.pdf





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hedging language of caution tentative language

Academic writing might give the impression that it is factual, conveying precise, accurate and objective facts and information.

"However, it is now recognised that an important feature of academic writing is the concept of cautious language, often called *hedging*."

In other words, it is necessary to make decisions about your stance on a particular subject, or the strength of the claims you are making."

Adapted from: Cooper, P. (2011): Academic Writing and Czech Universities





Hedge Class	Function
Shields Devices that take responsibility for the claim made away from the author. They function as a tool protecting the author from any criticism. The writer aims at not being on record with regard to the propositions expressed in the	Responsibility shifting e.g([1], [2], [3],),it is shown in [3], Romanowska found,we refer reader to [3, 4],see [10]
text.	Speaking facts The writer shields his/her claims through stating "the commonly accepted" view. e.g. Definition 1, A map is,is defined to be,space is said to be
Mitigators The author admits his/her responsibility for the claims made. The writer takes stance while	Approximation e.gsome,more, Several,similar Possibility e.gmay,can,
using mitigators, but decides to weaken his/her propositions for various reasons.	possible Understatement By using these devices, authors lessen the importance and the validity of their claims. e.gnotions,concept
	Admitting incompleteness e.gbriefly, however,





Introductory verbs	e.g. seem, tend, look like, appear to be, think, believe, doubt, be sure, indicate, suggest
Modal verbs	e.g. would, may, might, could
Frequency adverbs	e.g. often, sometimes, usually
Modal adverbs / adjectives	e.g. probably, possibly / probable, possible
Modal nouns	e.g. assumption, possibility, probability
"That" clauses	e.g. It could be the case that It might be suggested that
"To"-clause + adjective	e.g. It may be possible to obtain





In addition, to the best of our knowledge, there is no facile and practical method for the synthesis of this compound in the literature.





Phosphorylated and unphosphorylated Tssk4 co-exist in testis by a temporal manner with the development of the testis.

Our study demonstrated the co-existence of phosphorylated and unphosphorylated Tssk4 in testis by a temporal manner with the development of the testis.

It could be speculated that some evidence seems to suggest there might be some co-existence of phosphorylated and unphosphorylated Tssk4 in testis by a temporal manner with the development of the testis.





The fluorescence lifetime measurement of the diol/carbonate pair will be complete in two months.

The fluorescence lifetime measurement of the diol/carbonate pair is expected to be complete in two months.

It is estimated that in the next fifty years the world's population might again grow 40-50% and if we continuously used the amount of water that we are currently using the water supply may significantly diminish.

In the next fifty years the world's population will again grow 40-50% and if we continuously use the amount of water that we are currently using the water supply will significantly diminish.



paragraphs







Adapted from: https://www.youtube.com/watch?v=vN4afrr33Ac





coherence and cohesion





Original version

Some of the on-going methods are used to prevent the transmission of the mutant mitochondria; of these methods, the preimplantation genetic diagnostic and the prenatal diagnostic tests, they are used to analyse cells obtained from the embryo but both techniques are inefficient in predicting the exact level of heteroplasmy in the whole embryo (Chiaratti et al., 2011). With the use of maternal spindle transfer, the expected outcome is the delivery of off-springs that are genetically related to both of their parents, as

Reformulated version

A number of methods are used to prevent the transmission of mitochondria. For example, the pre-implantation genetic diagnostic and the prenatal diagnostic test are used to analyse cells obtained from the embryo. Neither method, however, is able to predict the exact level of heteroplasmy in the embryo (Chiaratti et al 2011). By using the maternal spindle transfer, we can expect the delivery of off-springs that are genetically related to both of their parents.

Adapted from: Ellwood, C.(2011)





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parallel structures...





This report was researched by Steve, written by Joan, and the editing was done by Justin.

This report was researched by Steve, written by Joan, and edited by Justin.

Writing essays is not easy because it takes time and care and careful thinking.

Writing essays is not easy because it takes time, care and **thought**.

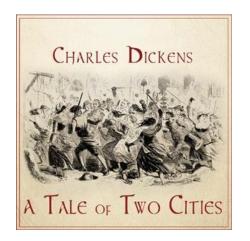
Many gases are invisible, odourless, and **they have no taste.**Many gases are invisible, odourless, and **tasteless**.







It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair.



Charles Dickens: A Tale of Two Cities, 1859





A house divided against itself cannot stand.

I believe this government **cannot endure**, permanently half slave and half free.

I do not expect the Union to be dissolved.

I do not expect the house to fall.

But I do expect it will cease to be divided.

It will become all one thing, or all the other.

Abraham Lincoln, 1858





Since it was, as mentioned, a test, we did not try to achieve the best results, we just wanted to verify the idea of time characteristics.





Since it was, as mentioned, a test, we did not try to achieve the best results, we just wanted to verify the idea of time characteristics.



The(Our) intention was to verify (its) time characteristics (of...) by means of a (...) test.





Other factors must be considered in order to answer the question as to why nanomechanical properties of the treated samples (cryosectioned and time-varying etched UHMWPE samples) were higher than nanomechanical properties of the untreated samples.





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Such enzymes that are active at temperatures below room temperature have significant value in biotechnological processes. For example, washing at lower temperatures reduces energy consumption and is therefore environmentally beneficial, and thus the design of cold-active subtilisins required for optimal washing at or below room temperature is desirable. Here, psychrophilic subtilisins isolated from the Antarctic Bacillus species have been characterized to meet this requirement. 8.9 However, these psychrophilic subtilisins are often heat-labile, and thus storage or compatibility with detergent components can be a problem. Therefore, engineering a subtilisin that combines stability and cold activity represents a worthwhile strategy to pursue. A number of subtilisin variants with improved activity at low temperatures have been engineered. 10



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The present study was conducted to determine the prevalence of Listeria monocytogenes in smoked fish in Sokoto, Nigeria. A total of 115 different species of smoked fish from the various retail outlets and market places within the metropolis were analysed for the presence of L. monocytogenes using ISO culture method. Out of the 115 samples analysed, 29 (25%) were positive for *L. monocytogenes*. Other Listeria species isolated in this study were *L. grayi* 13 (11%), *L.* innocua 10 (9%) and *L. ivanovi* 15 (13%). The remaining 48 (42%) of the sample were negative for Listeria species. The study shows that L. monocytogenes and other Listeria species are common contaminant of smoked fish, and this may pose serious public health implications. (Salihu et al., 2008)



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.....was conducted to determine .....
....were analysed .....
....% were positive for
....were ...%
....% were negative for ...
The study shows that ....are ...
.... this may pose ....
```





Language in research publications

- audience
- complexity of the language
- drafting processes
- details

...keep writing...





Reading:

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